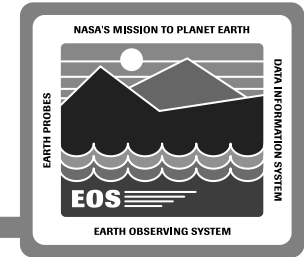


SDPS Design Overview

Mark Elkington / Richard Meyer / Ron Williamson

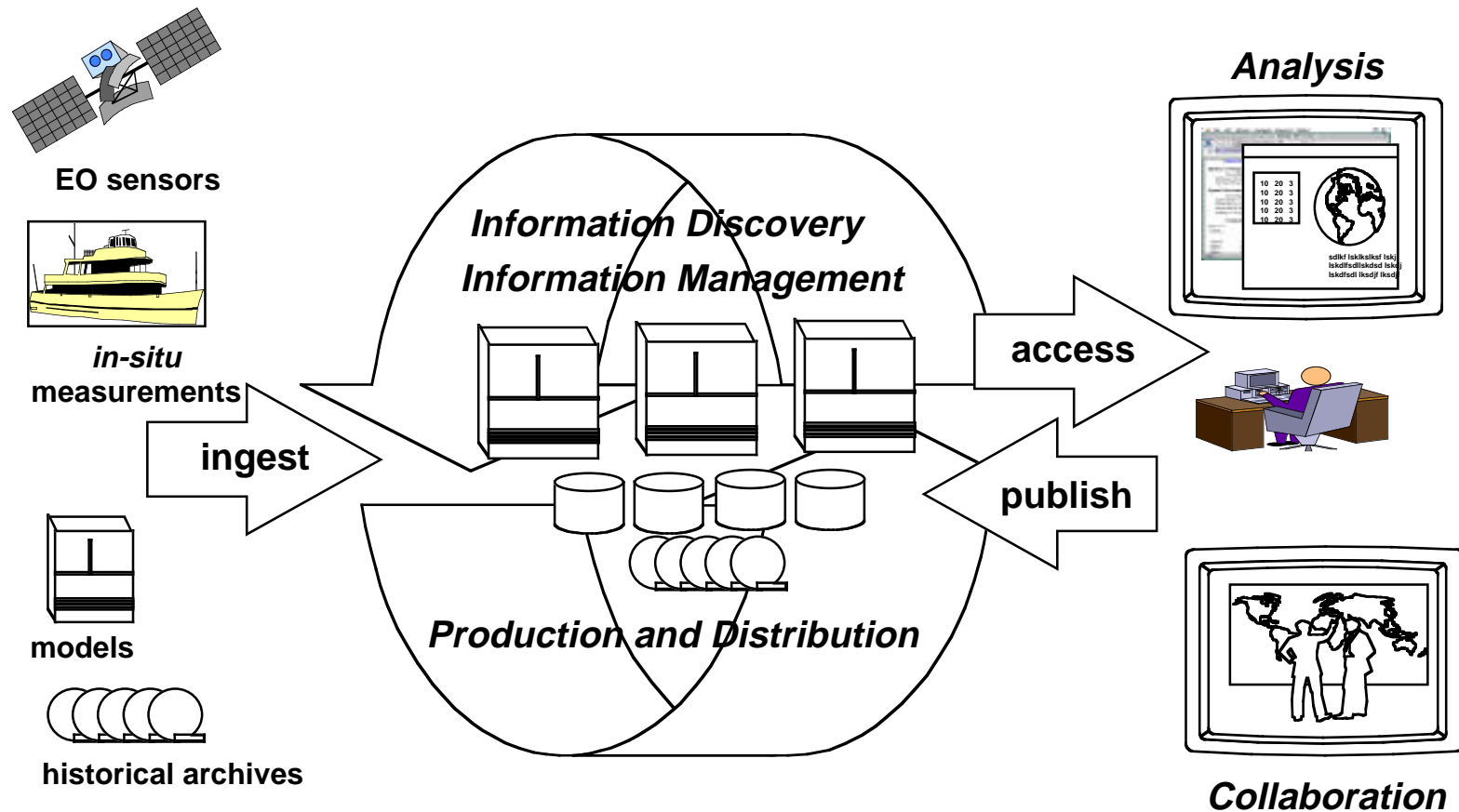
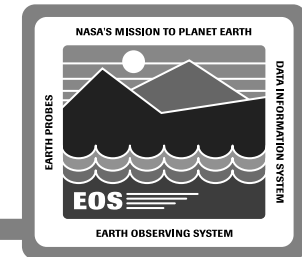
13 February 1995

Presentation Roadmap

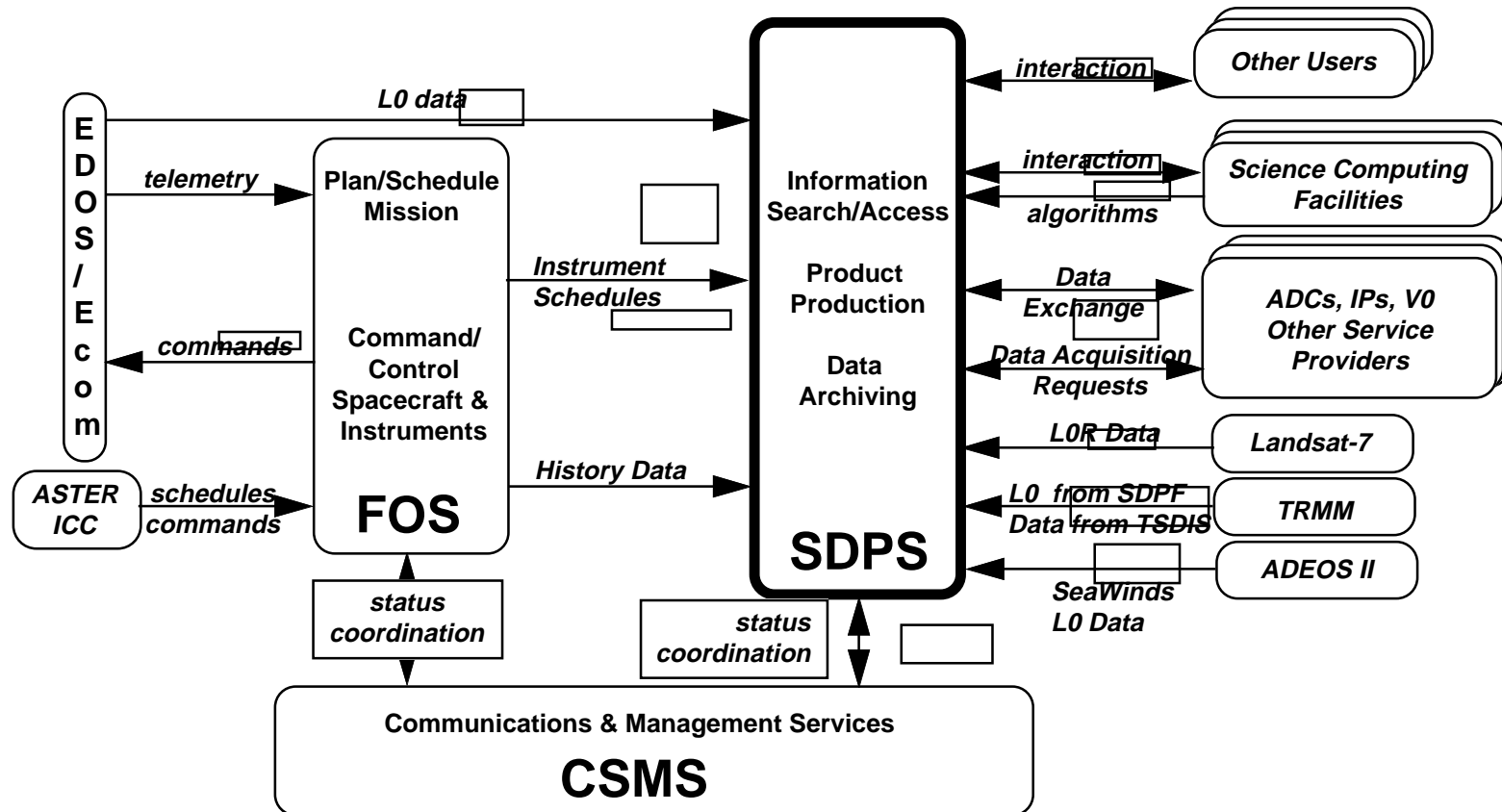
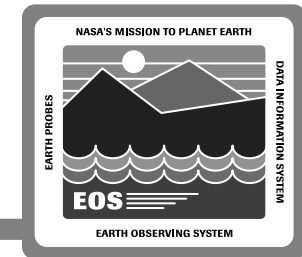


- ☐ **System/Segment Context**
- ☐ **Subsystem Functional Overview**
- ☐ **Subsystem CI Overview**
- ☐ **Hardware Overview**
- ☐ **Release IR-1 and A Objectives**
- ☐ **Key Design Changes Since SDR**
- ☐ **CSMS Service Utilization - [*Richard Meyer*]**
- ☐ **End-to-End High Level Scenarios - [*Ron Williamson*]**

ECS Application Context

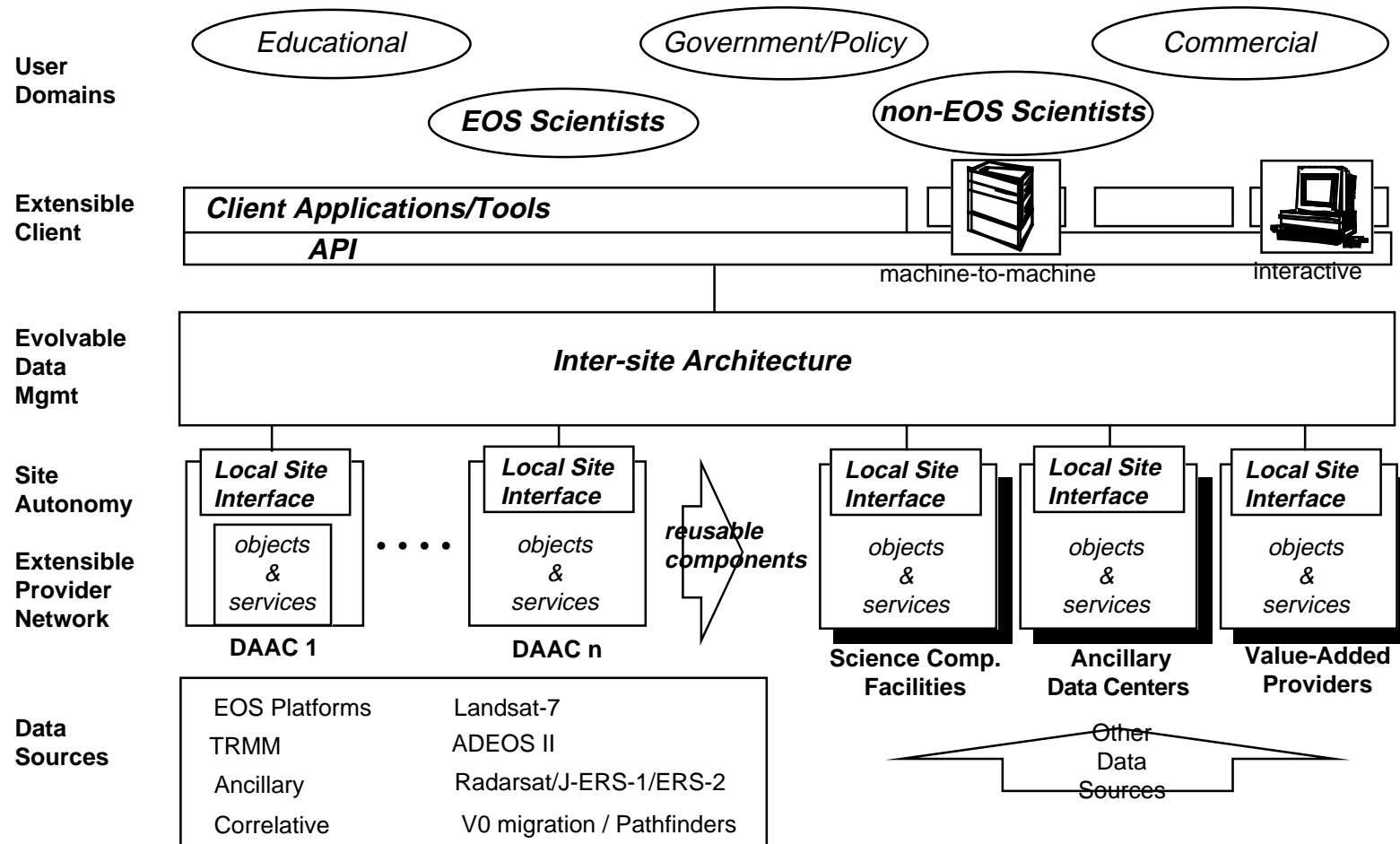
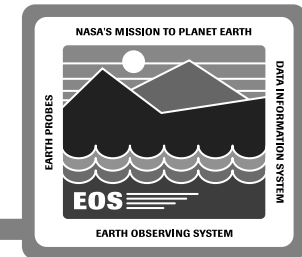


SDPS Segment Context



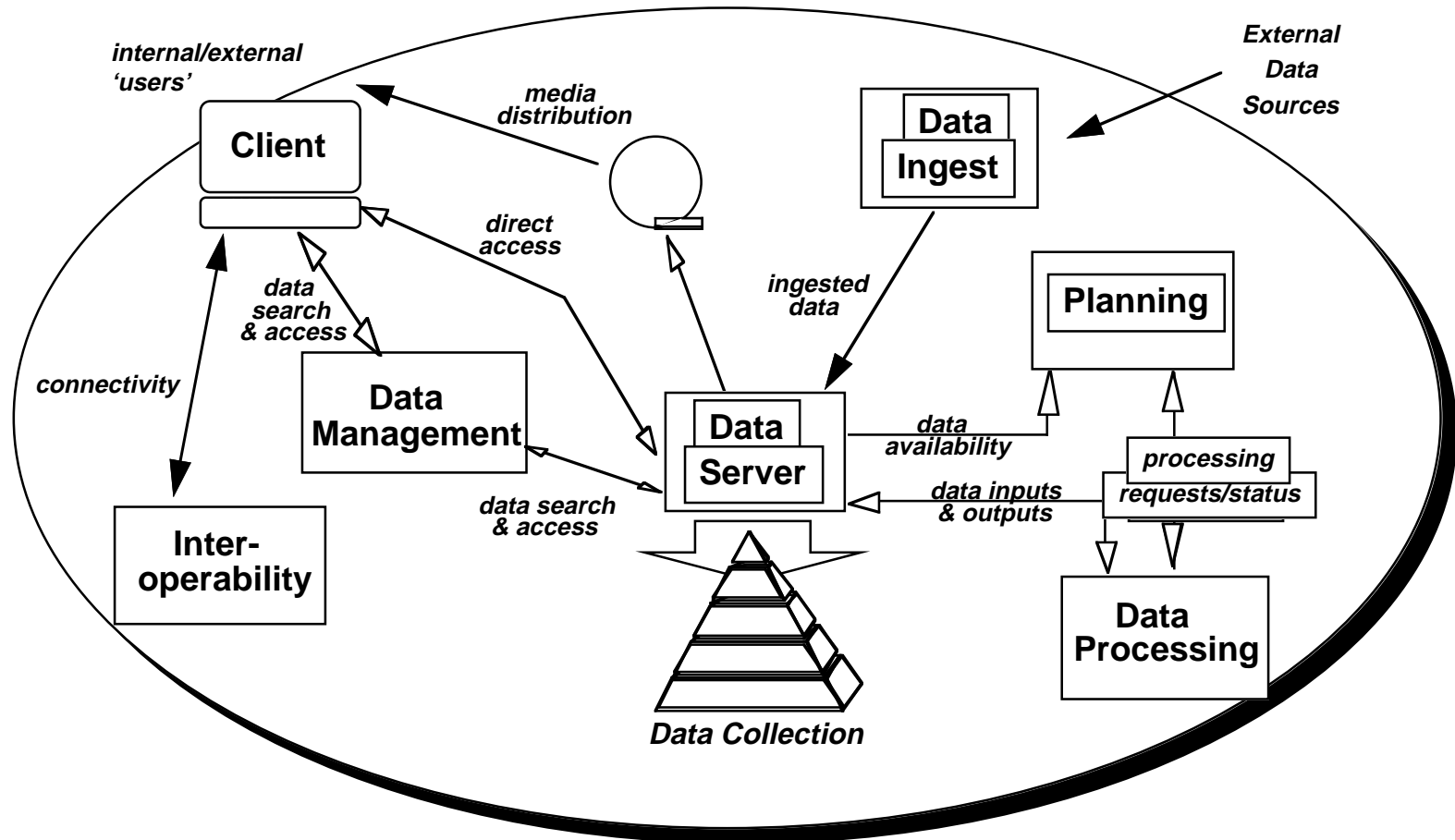
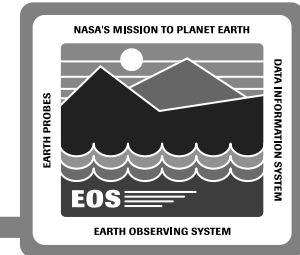
All interfaces use communication & interconnection services provided by CSMS

Release B - Conceptual Architecture

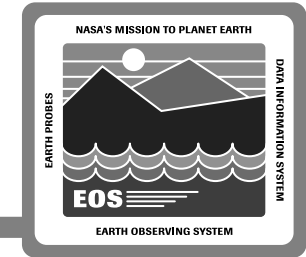


SDPS Architecture

Subsystem Interaction Overview



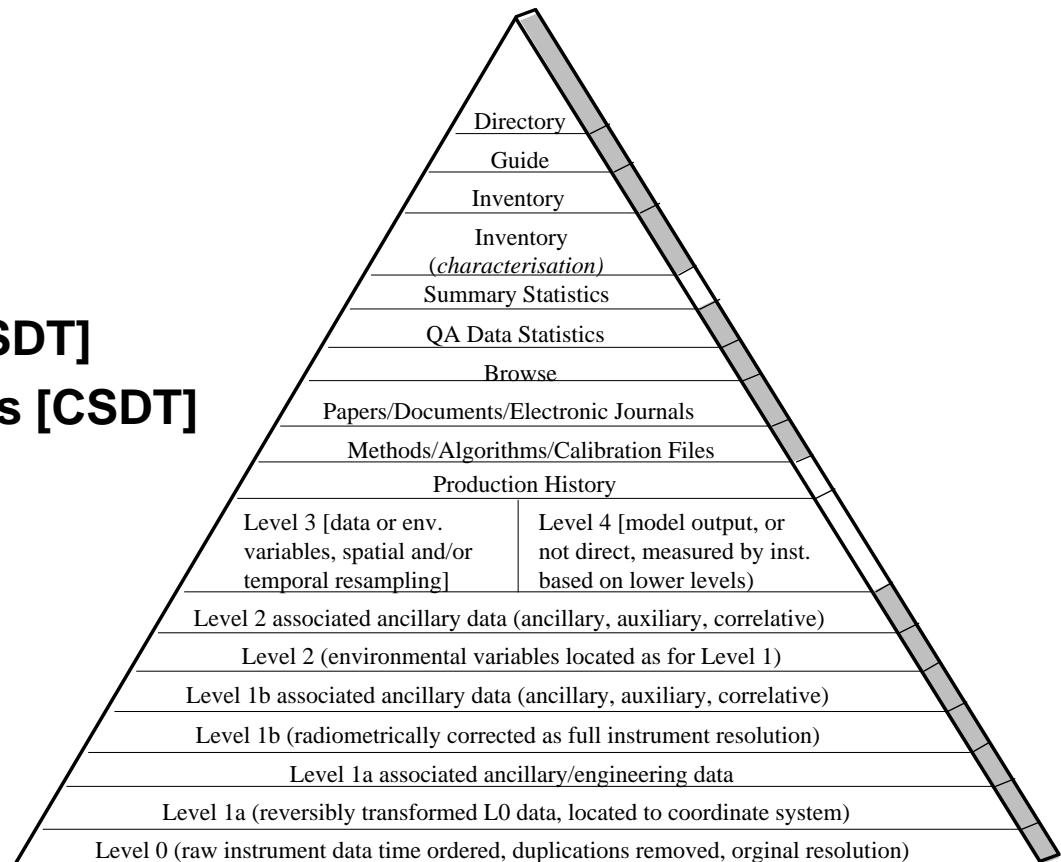
EOSDIS Data Model



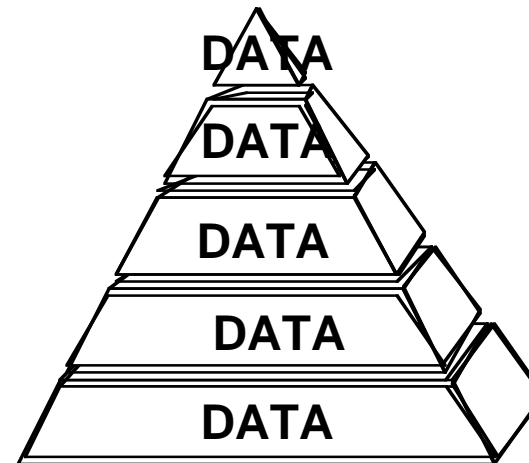
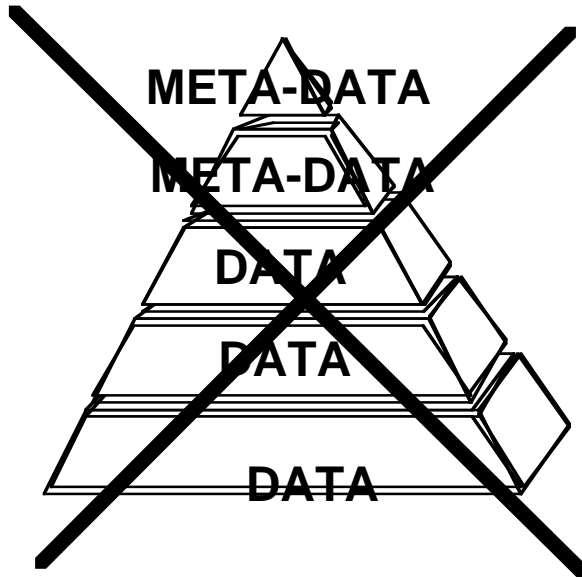
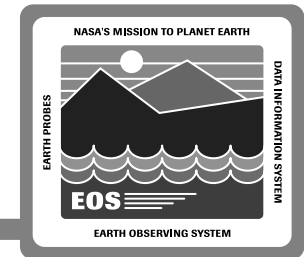
Data Model is a critical part of the overall design

Key features

- ❑ Data Collections
- ❑ Data Pyramid
- ❑ Earth Science Data Types [ESDT]
- ❑ Computer Science Data Types [CSDT]

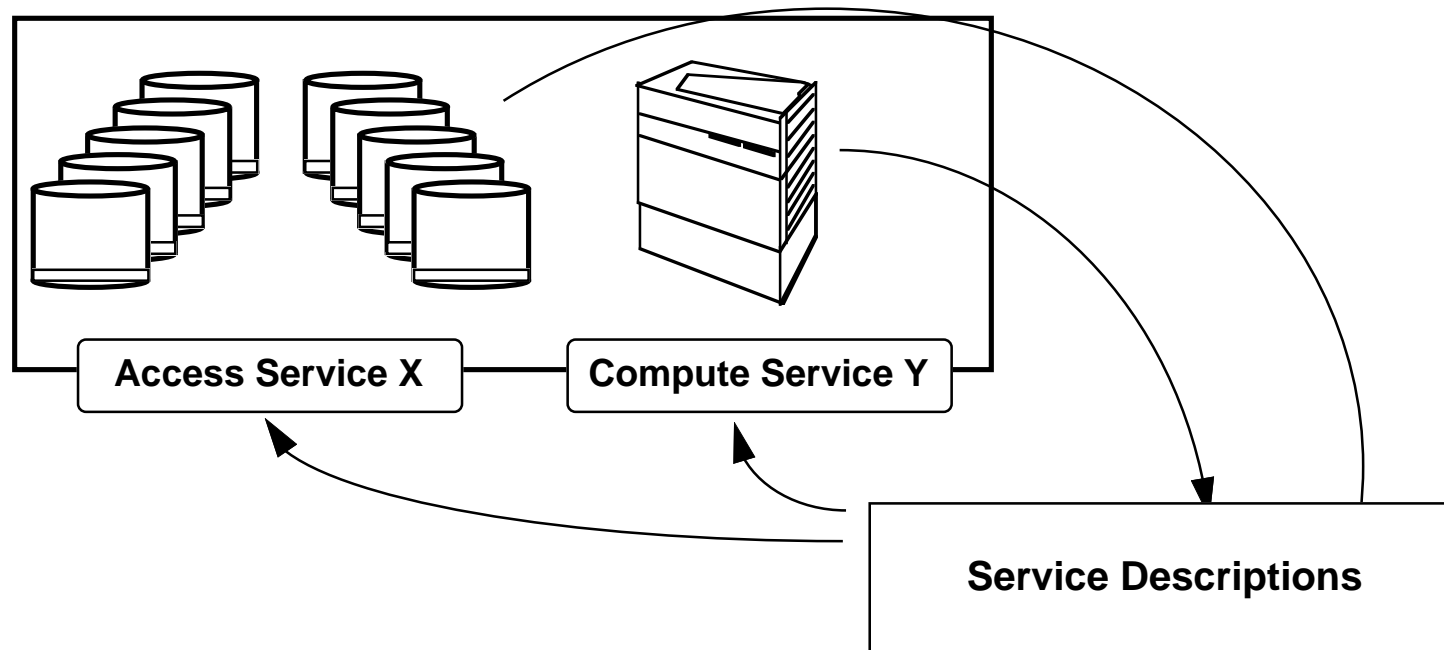
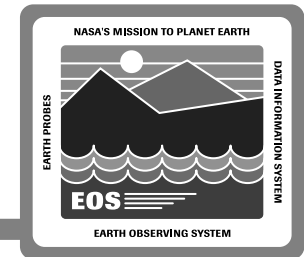


Principle: Meta-Data = Data



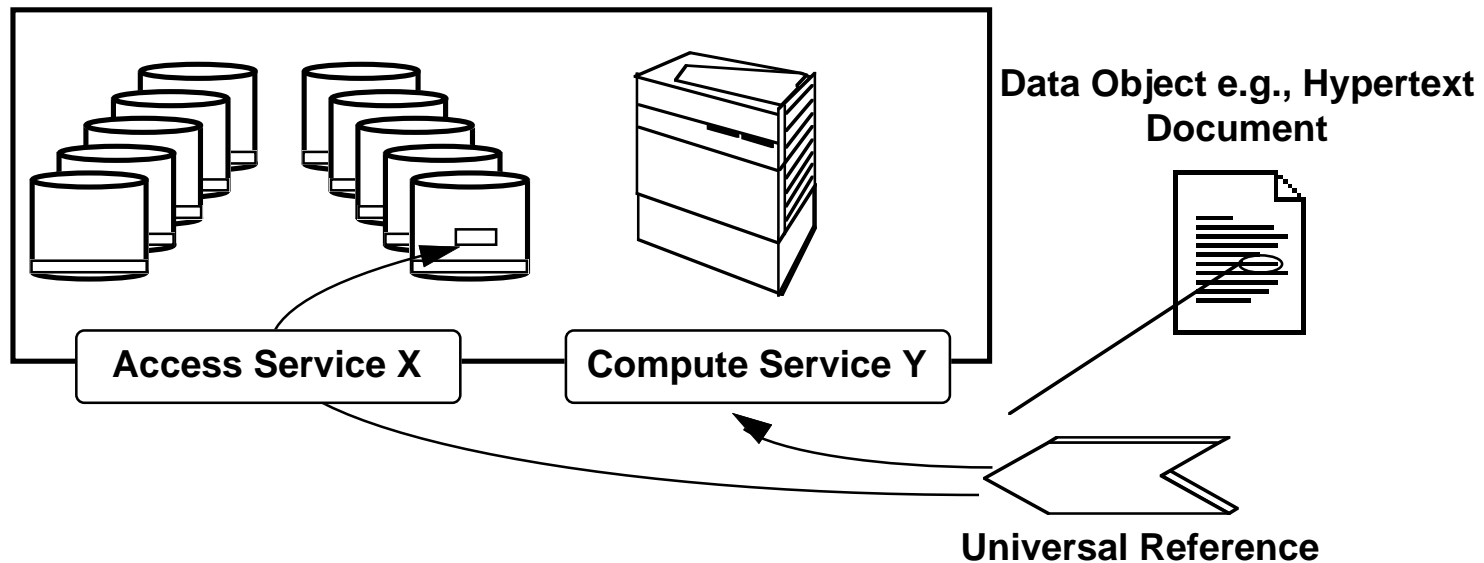
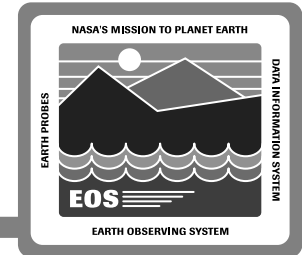
- Nature Of Request Decides What Is Searched And Accessed
- Any Restrictions On Searching Are Part Of Service Description

Principle: Data = Services



- Describe Data Access Service Like Any Other Service
- Methods To Locate Data Apply To Locating Services

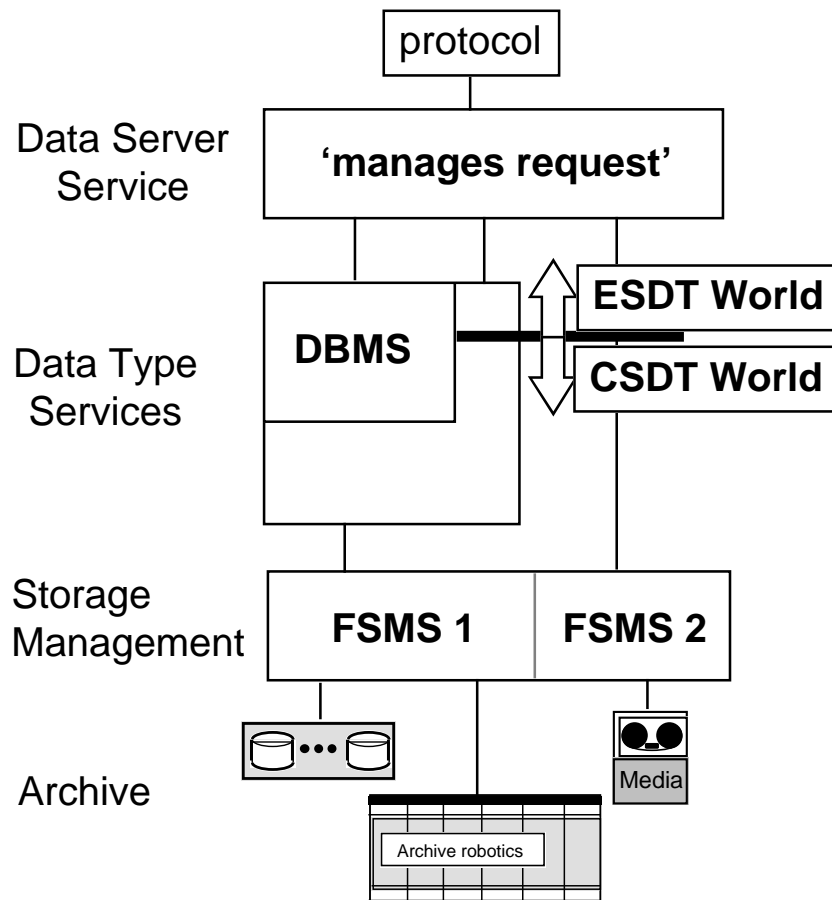
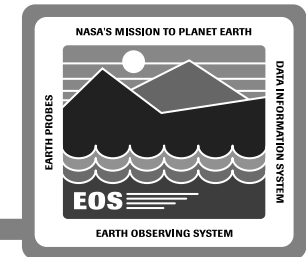
Principle: Universal Reference



- “Data = Service” ..MEANS.. Data Reference = Service Reference
- Universal Reference Can Point To Anything, Local Or Remote
- Some common features with URL - but some important extra concepts need to be added



Data Server Overview



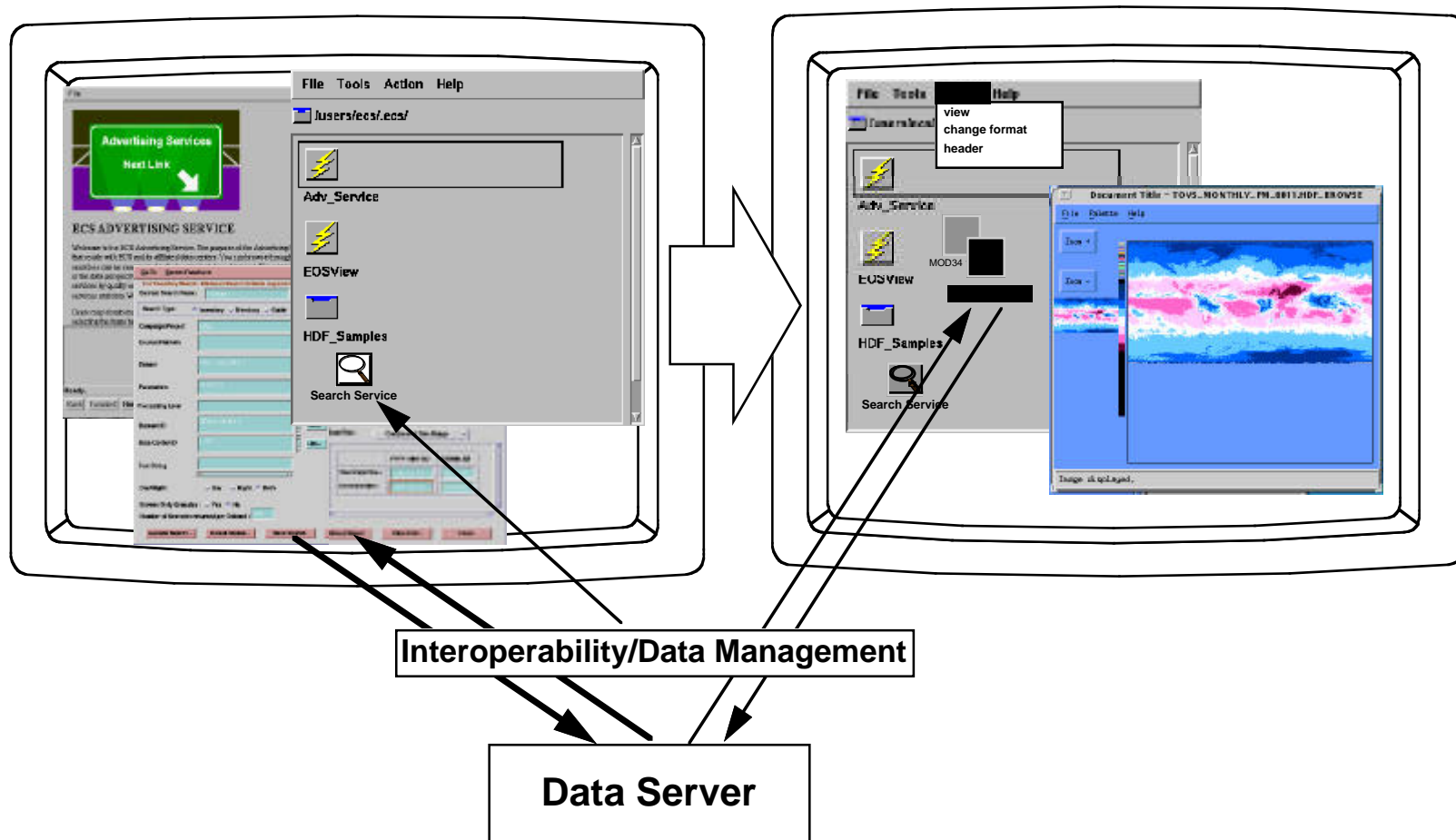
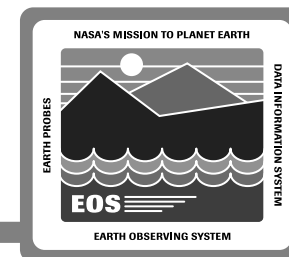
Manages data for both the PUSH and PULL aspects of EOSDIS.

Key Points

- Receives requests in terms of ESDTs which are converted to functions on CSDTs
- flexibility to store and manage different types
- DBMS selection influences design solution
- highly desirable that it supports multiple FSMS
- highly desirable that it supports sub-file access
- must support multiple archive technologies

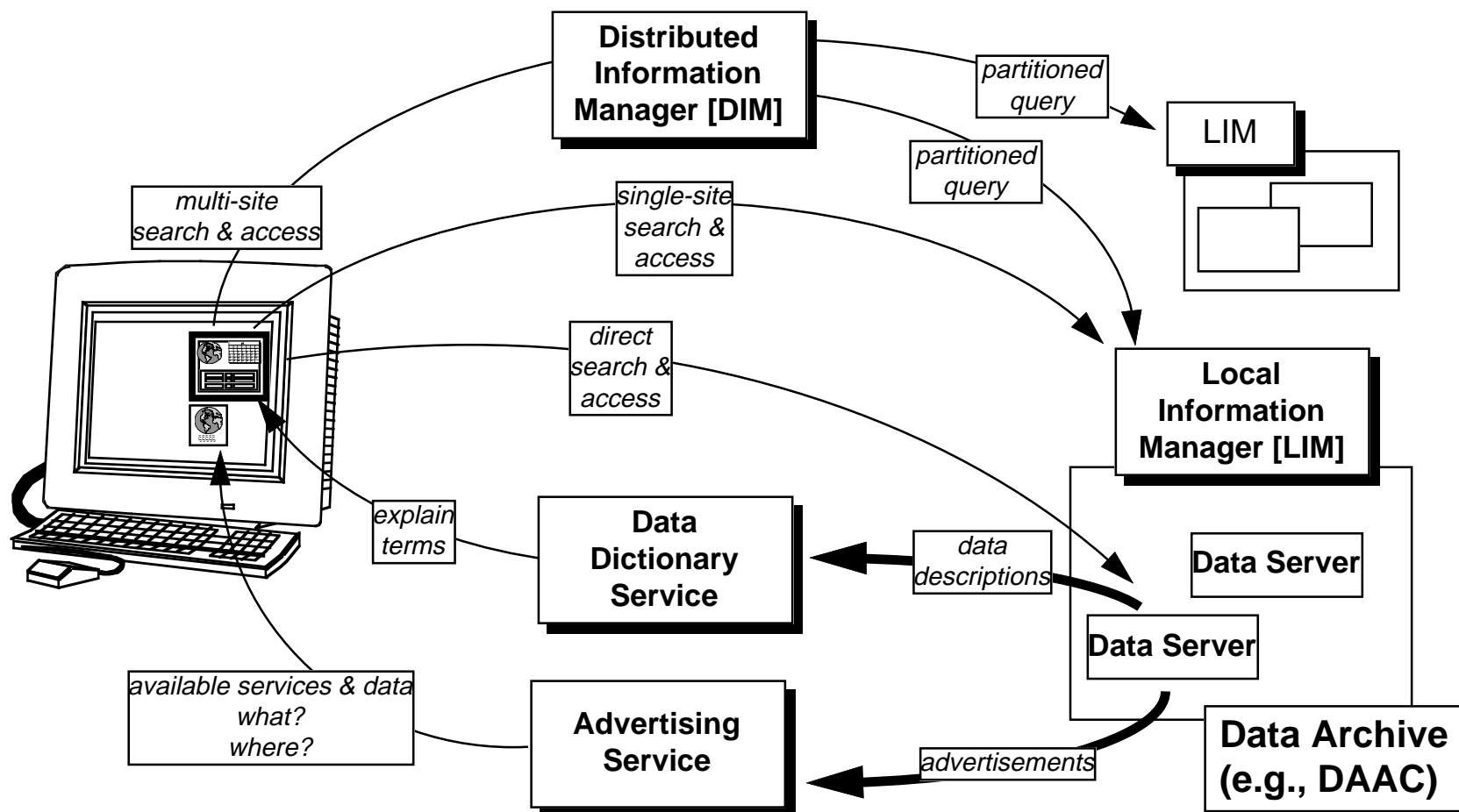
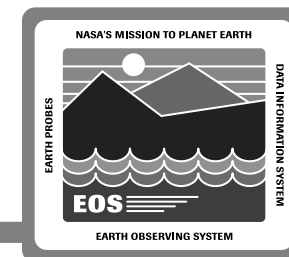


Client Overview



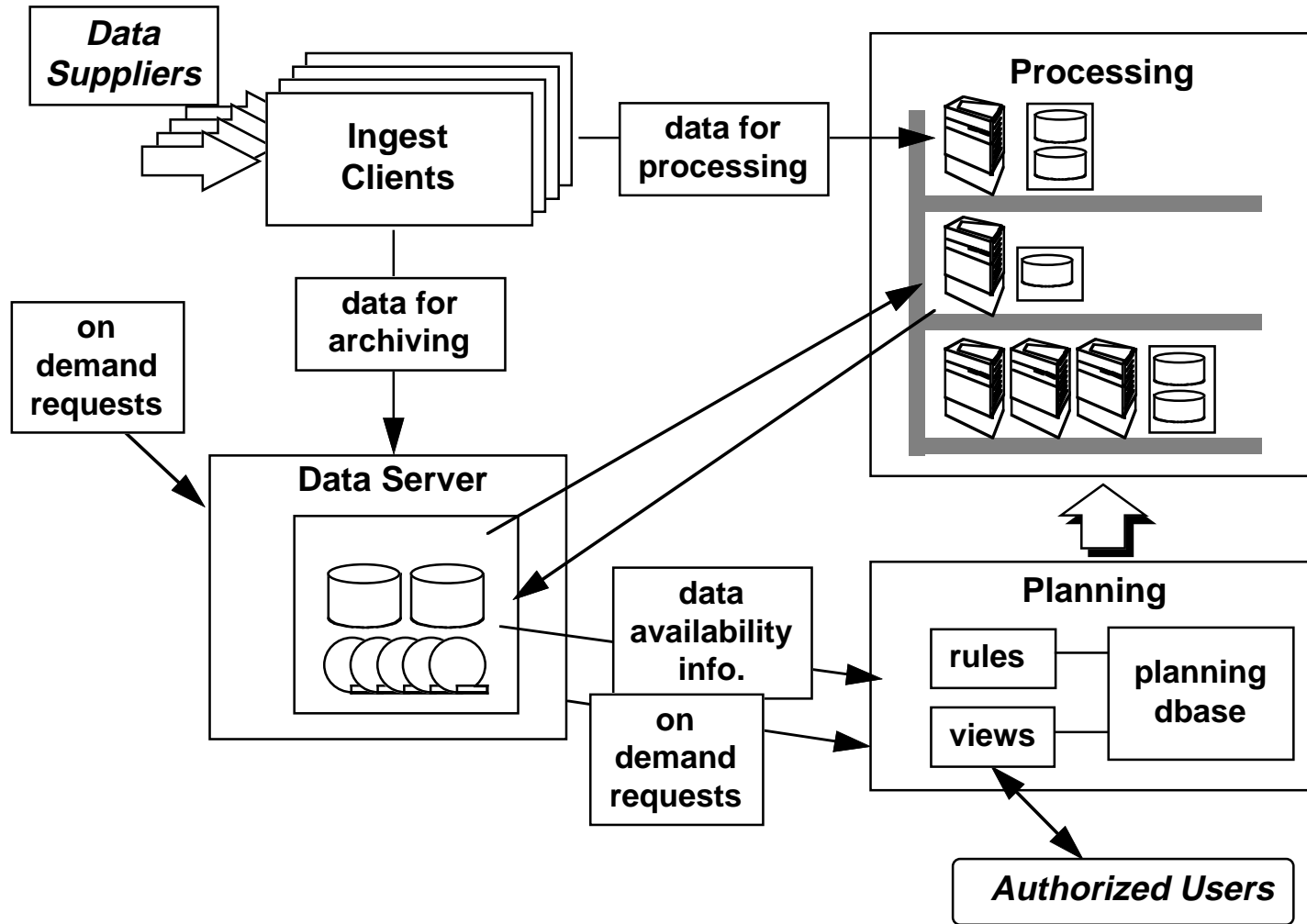
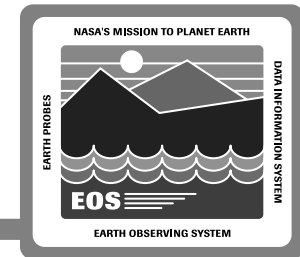


Interoperability and Data Management Overview

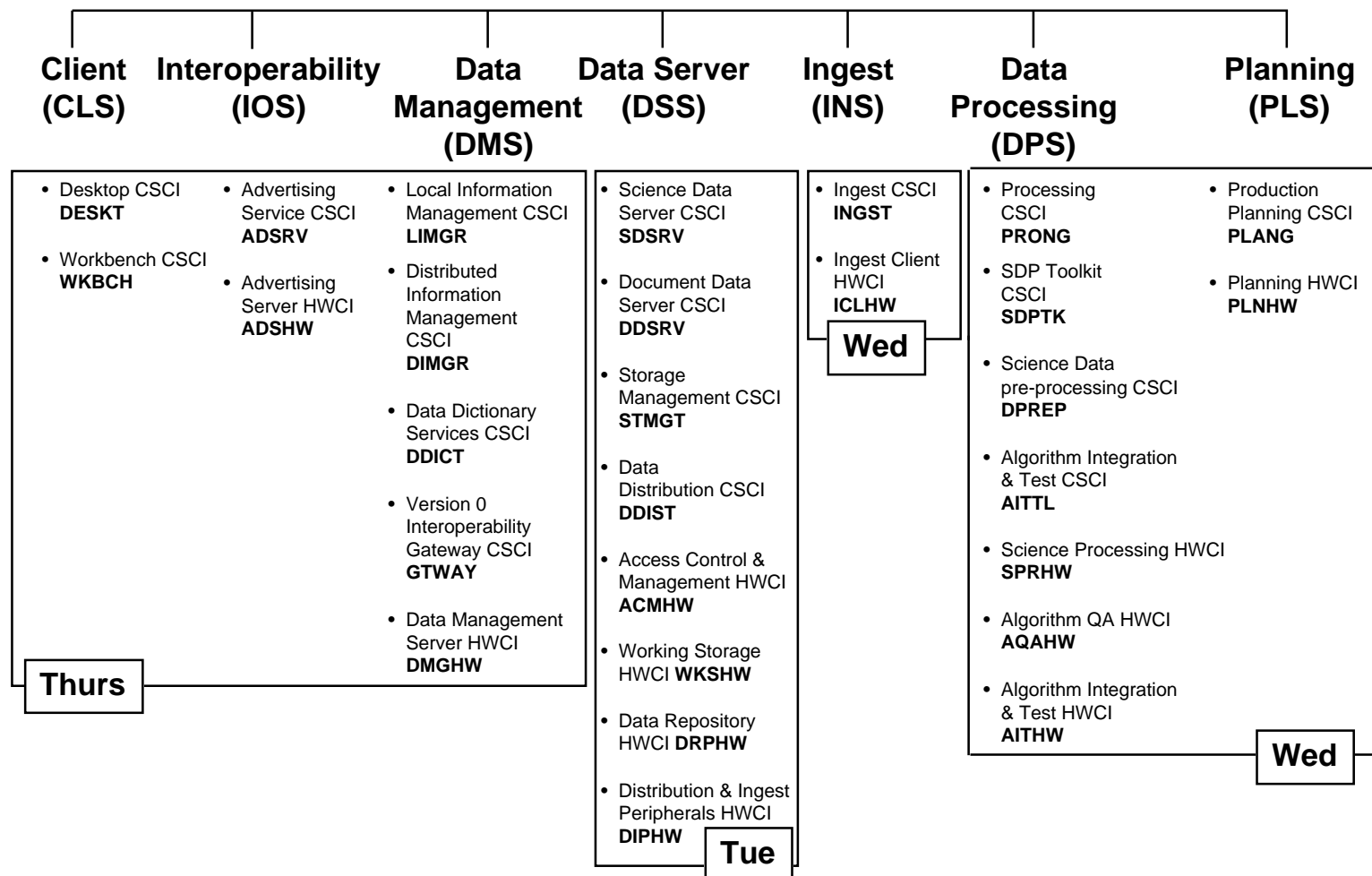
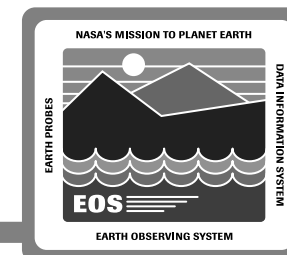




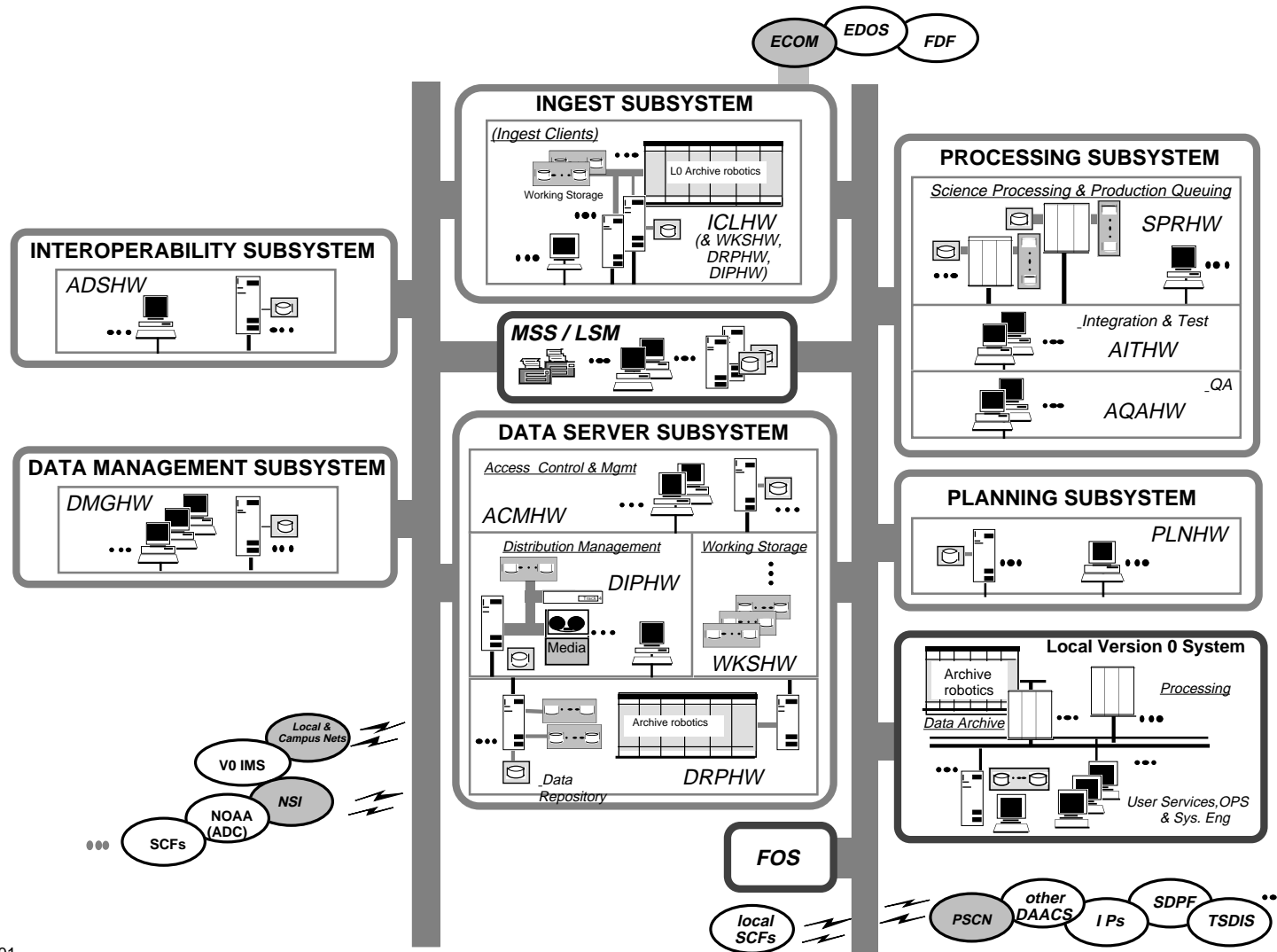
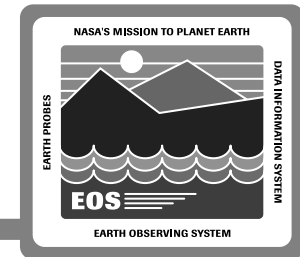
Ingest, Planning & Processing Overview



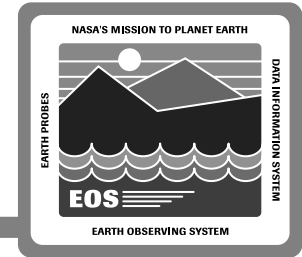
Subsystem CI Overview



Hardware Overview



Mission Oriented Release Phasing



Goal - provide sufficient functionality to satisfy Mission objectives while delaying hardware procurement as long as possible

Release IR-1 - TRMM INFRASTRUCTURE

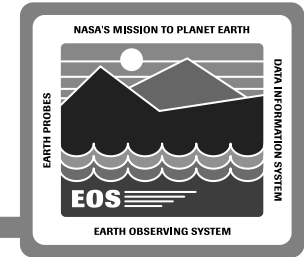
- **TRMM Interface Testing Support (SDPF, TSDIS, GDAO/NOAA, NESDIS)**
- **Algorithm I&T Support (toolkit, I&T tools, prototype chaining environment)**

Release A - TRMM SUPPORT

- **TRMM Support (ingest, processing, data server, distribution, search/access)**
- **V0 Service Support**
- **EOS-AM-1 Interface Testing Support (instrument and ancillary data)**
- **EOS-AM-1 Algorithm I&T**
- **Landsat Interface Testing Support**

I&T Presentation will discuss capabilities by release - Thursday

Major Proposed Design Changes Since SDR



- ❑ **Integration of V0 Client and Interoperability components for Release A**
 - to be presented in 'Version 0 Integration with Release A' - Thursday a.m.
- ❑ **Identification of distinct SCIENCE and DOCUMENT 'data' servers**
 - to be presented in 'Data Server Subsystem Design' - Tuesday p.m.
- ❑ **INGEST handles EDOS data stream without data availability schedule**
 - to be presented in 'Ingest Subsystem Design' - Wednesday a.m.
- ❑ **PLANNING deals with Dynamic replanning and/or dynamic priority updates based on changing conditions**
 - to be presented in 'Planning Subsystem Design' - Wednesday a.m./p.m.